IN THE CLAIMS:

1. (Previously presented) An arrangement for the spatial display of a scene or object, comprising

an imaging device with a great number of pixels in a raster of rows and columns, in which the pixels render bits of partial information from at least three views of the scene or object, and

an array of filter elements arranged in rows and columns, part of which are transparent to light of specified wavelength ranges, and the remaining part are opaque to light, the array being arranged in front of or behind the imaging device with the pixels, so that propagation directions are given for the light emitted by the pixels, and in which each pixel corresponds with several filter elements assigned to it, or each filter element corresponds with several pixels assigned to it, in such a way that each straight line connecting the area center of a visible segment of the pixel and the area center of a visible segment of the filter element corresponds to a propagation direction, and in which, within a viewing space in which observers located, the propagation directions intersect at a great number of intersection points, each of which represents an observer's position, so that the observer at any of these positions will predominantly see bits of partial information from a first selection of views with a first eye, and predominantly bits of partial information from a second selection of views with a second eye,

wherein

in at least a segment of the array, the ratio between the areas covered by filter elements transparent to light of specified wavelength ranges and the total area of all filter elements, multiplied by the average number of the different views displayed per row of the raster of pixels, is greater than one.

2. (Previously presented) An arrangement as claimed in claim 1, wherein the filter elements transmissive to light of specified wavelength ranges are transparent filters transmissive to substantially the entire visible spectrum.

3. (Previously presented) An arrangement as claimed in claim 1, wherein the filter elements transmissive to light of specified wavelength ranges are dimensioned that more than one pixel is visible per visible raster segment with reference to the pixel area.

4. (Previously presented) An arrangement as claimed in claim 1, characterized in that the quotient of the sum of areas covered by filter elements largely transmissive to light of substantially the entire visible spectrum and the sum of the areas covered by all filter elements of the respective array has a value lying between the quotient Q1=1.1/n' and the quotient Q2=1.8/n', so that, because of the filter elements transmitting light of the complete visible spectrum, always about 1.1 to 1.8 pixels on average are visible per visible raster segment with reference to the pixel area.

5. (Previously presented) An arrangement as claimed in claim 1, wherein, in case of parallel projection onto the raster of pixels, the segment corresponds to at least one row or at least one column.

6. (Previously presented) An arrangement as claimed in claim 1, characterized in that, in case of parallel projection of a sufficiently large filter segment of at least one of the arrays of filter elements provided onto at least one row or onto at least one column of the raster, not less than 1.1/n' times but not more than 1.8/n' times the area of the respective row or column is covered by filter elements transmissive to light of substantially the entire visible spectrum, so that, because of the filter elements transmitting light of the entire visible spectrum, about 1.1 to 1.8 pixels on average are visible per visible raster segment with reference to the pixel area.

7. (Previously presented) An arrangement as claimed in claim 1, further comprising at least one first continuous belt of transparent filters extending from one edge of the array to the opposite edge, and at least one second continuous belt of

transparent filters extending from one edge of the array to the opposite edge, with main directions of light propagation from at least first and second continuous belts not being parallel with each other.

8. (Previously presented) An arrangement as claimed in claim 7, wherein at least one of the continuous belts of transparent filters provided is aligned in parallel with the upper, lower, left or right edge of the respective array of filter elements and/or parallel with the upper, lower, left or right edge of the raster of pixels.

9. (Previously presented) An arrangement as claimed in claim 7, comprising a plurality of continuous belts of transparent filters.

10. (Previously presented) An arrangement as claimed in claim 7, characterized in that at least some of the continuous belts of transparent filters are randomly distributed over array, while maintaining the belts arranged in parallel with each other.

11. (Previously presented) An arrangement as claimed in claim 7, wherein at least some of the continuous belts of transparent filters are spaced at periodic distances on the array, while maintaining the belts arranged in parallel with each other, and wherein one of the continuous belts of transparent filters forms every m-th row of the respective array.

12. (Previously presented) An arrangement as claimed in any of the claim 7, wherein, in case of parallel projection of any, but not necessarily each continuous belt of transparent filters onto the raster of pixels in viewing direction, predominantly such pixels are covered, at least in part, by such transparent filters that predominantly or exclusively render bits of partial information from one and the same view.

13. (Previously presented) An arrangement as claimed in claim 7 wherein, in case of parallel projection of at least one of the continuous belt of transparent filters onto the raster of pixels, several pixels are covered, at least in part, by transparent filters that render bits of partial information of at least two different views.

14. (Previously presented) An arrangement as claimed in claim 1, an assignment of bits of partial information from the views (A_k) (k=1 ... n) to pixels ($alpha_{ij}$) of the position (i, j) is made according to the equation

$k = (i - c_{ij}) * (j – n) * IntegerPart[((i – c_{ij}) * (j – 1)) / n],$

in which

(i) is the index of a pixel ($alpha_{ij}$) in a row of the raster,

(j) is the index of a pixel ($alpha_{ij}$) in a column of the raster,

(k) is the consecutive number of the view (A_k) (k=1 ... n) from which the partial information to be rendered on a particular pixel ($alpha_{ij}$) originates,

(n) is the total number of the views (A_k) (k=1 . . . n) used at a time,

(c_{ij}) is a selectable coefficient matrix for the combination or mixture on the raster of the various bits of partial information originating from the views (A_k) (k=1 . . . n), and

IntegerPart is a function for generating the largest integer that does not exceed the argument put in brackets.

15. (Previously presented) An arrangement as claimed in claim 1, wherein, for the filter arrays provided, the filter elements ($beta_{pq}$) are combined into a mask image depending on their transmission wavelength, their transmission wavelength range or their transmittance according to the equation

$b = (p - d_{pq}) * (q - n_m) * IntegerPart[((p - d_{pq}) * (q – 1)) / n_m],$

in which

(p) is the index of a filter element ($beta_{pq}$) in a row of the respective array,

(q) is the index of a filter element ($beta_{pq}$) in a column of the respective array,

(b) is an integer that defines one of the intended transmission wavelengths, transmission wavelength ranges or transmittances ($lambda_b$) for a wavelength or gray level filter ($beta_{pq}$) in the position (p, q), and that may adopt values between 1 and (b_{max}), with b_{max} being a natural number greater than 1,

(n_m) is an integral value greater than zero that preferably equals the total number (k) of the views (A_k) displayed in the combination image,

(d_{pq}) is a selectable mask coefficient matrix for varying the generation of a mask image, and

IntegerPart is a function for generating the largest integer that does not exceed the argument put in brackets.

16. (Previously presented) An arrangement as claimed in claim 1, wherein exactly one array of filter elements ($beta_{pq}$) is provided and the distance (z) between the array and the raster of pixels ($alpha_{ij}$), measured in a direction normal to the raster, is defined according to the equation

$$p_d / s_p = (d_a \pm z) / z,$$

in which

(s_p) is the mean horizontal distance between two neighboring pixels ($alpha_{ij}$),

(p_d) is the mean interpupillary distance of an observer, and

d_a is a selectable viewing distance.

17. (Previously presented) An arrangement as claimed in claim 1, wherein all filter elements provided on the filter array or filter arrays are of equal size.

18. (Previously presented) An arrangement as claimed in claim 1, wherein the filter elements provided on the filter array or filter arrays have an essentially periodic arrangement.

19. (Previously presented) An arrangement as claimed in claim 1, wherein the light propagation directions for the partial information rendered on the pixels are specified depending on their wavelength range.

20. (Previously presented) An arrangement as claimed in claim 1, wherein on at least one of the arrays of filter elements provided, in at least one row (q) of the array, immediately neighboring transparent filters border on a different number of immediately neighboring transparent filters on row (q-1) than on row (q+1).

21. (Previously presented) An arrangement as claimed in claim 1, wherein each of the filter arrays provided comprises a static, temporally invariable filter array and arranged in a substantially fixed position relative to the raster of pixels.

22. (Previously presented) An arrangement as claimed in claim 1, wherein at least one pixel renders image information that is a mix of bits of partial information from at least two different views.

23. (Previously presented) An arrangement as claimed in claim 1, wherein the imaging device comprises an LC display, a plasma display, or an OLED screen.

24. (Previously presented) An arrangement as claimed in claim 1, further comprising a translucent image display device and exactly one array of filter elements, which is arranged between the image display device and a planar illuminating device, and a switchable diffusing plate between the image display device and the filter array, so that in a first mode of operation, in which the switchable diffusing plate is switched to be transparent, a spatial impression is produced for the observer, and in a second mode of operation, in which the switchable diffusing plate is switched to be at least partially diffusing, the effect of the array of filter elements is cancelled to the greatest possible extent, so that the diffused light permits a homogeneous illumination of the image

display device in the greatest possible degree, and that two-dimensional image contents can be displayed on the said image display device with undiminished resolution.

25. (Previously presented) An arrangement as claimed in claim 1 wherein at least one array of filter elements which contains pixels of an electrochromic or photochromic design that at least partially act as wavelength or gray level filters, the array exhibiting, in a first mode of operation, a filter array structure that is suitable for 3D display, and in a second mode of operation the pixels of electrochromic or photochromic design are switched to be as transparent as possible, to the entire visible spectrum.

26. An arrangement as claimed in claim 25, comprising the wavelength or gray level filters of electrochromic or photochromic design and wavelength or gray level filters of invariable transmission properties, the wavelength or gray level filters of invariable transmission properties being substantially transparent to the entire visible spectrum.

27. (New) A method for spatial display of a scene or object, comprising

rendering bits of partial information, from at least three views of the scene or object, with an imaging device, wherein the imaging device has a great number of pixels in a raster of rows and columns;

giving propagation directions, to the light emitted by the pixels of the imaging device, by using an array of filter elements arranged in rows and columns, part of which are transparent to light of specified wavelength ranges, and the remaining part are opaque to light, the array being arranged in front of or behind the imaging device with the pixels, wherein each pixel corresponds with several filter elements assigned to it, or each filter element corresponds with several pixels assigned to it, in such a way that each straight line connecting the area center of a visible segment of the pixel and the area center of a visible segment of the filter element corresponds to a propagation direction, and in which, within a viewing space in which observers located, the propagation directions intersect at a great number of intersection points, each of which represents an observer's position, so that the observer at any of these positions will

predominantly see bits of partial information from a first selection of views with a first eye, and predominantly bits of partial information from a second selection of views with a second eye; and

wherein, in at least a segment of the array, the ratio between the areas covered by filter elements transparent to light of specified wavelength ranges and the total area of all filter elements, multiplied by the average number of the different views displayed per row of the raster of pixels, is greater than one.